

Notice of Allowability**Application No.**

10/792,079

Examiner

BERNARD KRASNIC

Applicant(s)

GALLAGHER ET AL.

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/04/2009.
2. ☒ The allowed claim(s) is/are 1-6, 13, 20-27 and 34-35 now renumbered as 1-17.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 5/28/2004; 4/19/2007
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20091117.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Bernard Krasnic/
Examiner, Art Unit 2624

DETAILED ACTION

1. This Office Action incorporates an Examiner's Amendment and Reasons For Allowance.
2. The Applicant's response to the last Office Action, filed 11/04/2009 has been entered and made of record.
3. The application has pending claim(s) 1-13, 20-28 and 34-35.
4. In response to the amendments filed on 11/04/2009:

The "Objections to the claims" have been entered and therefore the Examiner withdraws the objections to the claims.

The "Claim rejections under 35 U.S.C. 112, second paragraph" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 112, second paragraph.
5. Applicant's arguments, see "Applicant also asks for reconsideration ..." in page 9 of the Amendment After Final, filed 11/04/2009, with respect to claim 10 have been fully considered and are persuasive. After careful reconsideration, the 35 U.S.C. 103(a) rejection of claim 10 has been withdrawn. See the interview summary for further discussions.

EXAMINER'S AMENDMENT

6. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Lyle Kimms (Reg. No. 34,079) on November 17, 2009.

The application has been amended as follows:

For the claims on pages 2-6 of the Applicant's Amendment After Final dated 11/04/2009:

1. Please further amend claims 1-13, 20-28 and 34-35 as shown by the attached pages.

Claim 1. (*Currently Amended*) A method ~~for~~ of correcting redeye in a digital image, ~~said image~~ having at least one redeye defect pair, said method comprising the steps of:

measuring a redeye defect pair separation;

ascertaining an age classification and a head rotation of each said redeye defect pair;

determining a size limit based on said redeye defect pair separation and upon an imaging system blur associated with said image, and further based upon the ascertained age classification or head rotation of each said redeye defect pair;

adjusting a size of ~~said~~ defects of said redeye defect pair responsive to ~~said~~
~~defect pair separation~~ the size limit to provide adjusted defects; and

changing a color of said adjusted defects,

wherein the measuring step, the ascertaining step, the determining step, the
adjusting step, and the changing step are carried out with a digital image processor.

Claim 2. (*Currently Amended*) The method of Claim 1, wherein ~~said~~ the adjusting step
further comprises reducing the size of at least one of said defects of said defect pair.

Claim 3. (*Currently Amended*) The method of Claim 2, wherein ~~said~~ the reducing step
further comprises ~~calculating a size limit using said defect pair separation and~~ trimming
pixels beyond said size limit from said defects.

Claim 4. (*Currently Amended*) The method of Claim 1, further comprising the steps of:
detecting locations of a pair of seed defects prior to ~~said~~ the measuring step; and
growing said seed defects into grown defects prior to ~~said~~ the adjusting step;
and

wherein said the adjusting step further comprises reducing the size of said grown
defects.

Claim 5. (*Currently Amended*) The method of Claim 4, wherein ~~said~~ the measuring step
is executed before the prior to said growing step.

Claim 6. (*Currently Amended*) The method of Claim 4, wherein said seed defects each have a single pixel ~~prior to said~~ before the growing step.

Claims 7-12. (*Canceled*)

Claim 13. (*Currently Amended*) The method of Claim 1, further comprising the steps of:
determining a spatial operator in accordance with said defect pair separation;
and
using said spatial operator to blend the image in a vicinity of said adjusted defects.

Claim 20. (*Currently Amended*) A method ~~for~~ of correcting redeye in a digital image, said method comprising the steps of:
detecting a pair of redeye seed defects in said image;
growing each of said redeye seed defects to provide a pair of grown defects;
measuring a separation of the members of one of said pair of redeye seed defects and said pair of grown defects to provide a defect pair separation;
ascertaining an age classification and a head rotation of each said redeye defect pair;

determining a size limit based on said redeye defect pair separation and upon an imaging system blur associated with said image, and further based upon the ascertained age classification or head rotation of each said redeye defect pair;
adjusting a size of said grown defects responsive to ~~said defect pair separation~~
the size limit to provide adjusted defects; and
changing a color of said adjusted defects to reduce apparent redeye,
wherein the detecting step, the growing step, the measuring step, the ascertaining step, the determining step, the adjusting step, and the changing step are carried out with a digital image processor.

Claim 21. *(Currently Amended)* The method of Claim 20, wherein ~~said the~~ the adjusting step further comprises reducing the size of said grown defects.

Claim 22. *(Currently Amended)* The method of Claim 20, wherein said seed defects each have a single pixel.

Claim 23. *(Currently Amended)* The method of Claim 21, wherein ~~said the~~ the reducing step further comprises ~~calculating a size limit using said defect pair separation and~~ trimming pixels beyond said size limit from respective said defects.

Claim 24. *(Currently Amended)* The method of Claim 23, wherein said seed defects each have a single pixel and ~~said the~~ the reducing step further comprises trimming pixels of

each said grown defect disposed farther than said size limit from a pixel location defined by a respective said seed defect.

Claim 25. (*Currently Amended*) The method of Claim 23, wherein said seed defects each have multiple contiguous pixels and ~~said the~~ reducing step further comprises trimming pixels of each said grown defect disposed farther than said size limit from a centroid defined by a respective said seed defect.

Claim 26. (*Currently Amended*) The method of Claim 20, wherein ~~said the~~ growing step further comprises:

- generating a list of pixels of each said seed defect to provide list pixels;
- determining pixels neighboring said list pixels to provide neighboring pixels;
- calculating color value ratios of each of said neighboring pixels; and
- adding to said list one of said neighboring pixels having the color value ratio most distant from a predetermined limit, when one or more of said neighboring pixels has a color value ratio greater than a predetermined limit.

Claim 27. (*Currently Amended*) The method of Claim 20, further comprising the step of determining an eye separation correction factor ~~and,~~ wherein ~~said the~~ adjusting step is responsive to said defect pair separation and said separation correction factor.

Claim 28. (*Canceled*)

Claim 34. (*Currently Amended*) A computer readable storage medium having a computer program stored thereon for performing a method ~~for~~ of correcting redeye in a digital image, ~~said image including defects corresponding to at least~~ having at least one redeye defect pair, the method comprising the steps of:

measuring a redeye defect pair separation ~~in response to distance data~~
~~measured by a distance measurer~~;

ascertaining an age classification and a head rotation of each said redeye defect pair;

determining a size limit based on said redeye defect pair separation and upon an imaging system blur associated with said image, and further based upon the ascertained age classification or head rotation of each said redeye defect pair;

adjusting a size ~~of said defects responsive to~~ of said redeye defect pair separation responsive to the size limit to provide adjusted defects ~~utilizing a processing unit~~; and

changing a color of said adjusted defects ~~with said processing unit~~.

Claim 35. (*Currently Amended*) A system for correcting redeye in a digital image, ~~said image~~ having at least one redeye defect pair, said system comprising:

~~a distance measurer means for measuring~~ measuring unit configured to measure
a defect pair separation;

an ascertaining unit configured to ascertain an age classification and a head rotation of each said redeye defect pair;

~~a defect grower means for receiving said defect pair separation and adjusting a size of said defects responsive to said defect pair separation to provide adjusted defects; and~~

a determining processor unit configured to determine a size limit based on said redeye defect pair separation and upon an imaging system blur associated with said image, and further based upon the ascertained age classification or head rotation of each said redeye defect pair;

an adjusting processor unit configured to adjust a size of defects of said redeye defect pair responsive to the size limit to provide adjusted defects; and

~~a color modifier means for changing~~ unit configured to change a color of said adjusted defects.

REASONS FOR ALLOWANCE

7. The following is an examiner's statement of reasons for allowance:

Claims 1-6, 13, 20-27 and 34-35 (now renumbered as 1-17, for issue) are allowed.

Independent claim 1 (now renumbered as claim 1, for issue) respectively recites the limitations of: measuring a redeye defect pair separation; ascertaining an age classification and a head rotation of each said redeye defect pair; determining a size limit based on said redeye defect pair separation and upon an imaging system blur associated with said image, and further based upon the ascertained age classification or head rotation of each said redeye defect pair; adjusting a size of defects of said redeye defect pair responsive to the size limit to provide adjusted defects. The computer readable storage medium claim 34 (now renumbered as claim 16, for issue) recites similar limitations respectively. The system claim 35 (now renumbered as claim 17, for issue) recites similar limitations respectively.

Independent claim 20 (now renumbered as claim 8, for issue) respectively recites the limitations of: measuring a separation of the members of one of said pair of redeye seed defects and said pair of grown defects to provide a defect pair separation; ascertaining an age classification and a head rotation of each said redeye defect pair; determining a size limit based on said redeye defect pair separation and upon an imaging system blur associated with said image, and further based upon the ascertained age classification or head rotation of each said redeye defect pair; adjusting a size of said grown defects responsive to the size limit to provide adjusted defects.

The combination of these features as cited in the claims in combination with the other limitations of the claims are neither disclosed nor suggested by the prior art of record.

The closest reference Held et al (US 2002/0126893 A1, as applied in previous Office Action) discloses correcting redeye color of grown seed region defects. However, Held does not teach the limitations cited above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bhavesh M Mehta/

Supervisory Patent Examiner, Art Unit 2624

/Bernard Krasnic/

November 17, 2009